

**ATC**

**AIRFIELD**<sup>TM</sup>  
TRAINING COMPANY

# AIRFIELD LIGHTING TRAINING COURSES

**AGL1 – Airside Electrical Safety**

**AGL2 – Airfield Lighting & CCR Maintenance**

**AGL3 – Airfield Lighting Systems Design**

**AGL4 – Airfield Operations and Safety**

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## AGL1 – Airside Electrical Safety

### TRAINING SUMMARY

Introduction to AGL  
Series Circuit Design  
Series Circuit Safe Isolation  
Fault Finding  
CCR Safe Isolation  
AGL Isolating Transformers  
Airside Electrical Safety  
Maintenance Tools  
AGL UPS Power Systems  
Situational Awareness  
Photometric Testing

### AGL SUBJECTS

PAPI  
Runway Lighting  
Taxiway Lighting  
Signage & Markings  
AGL Jointing / Connectors  
Standby Generators  
Fault Finding  
LED Luminaire Maintenance

### CCR SUBJECTS

CCR Safe Isolation  
CCR Maintenance  
CCR Installation

AGL1 is 2-day introductory level airside electrical safety training course designed for new airfield engineers, contractors and operational personnel involved in the installation and maintenance of Airfield Ground Lighting Systems, CCR's & AGL Primary Series Circuits.

### ABOUT AIRFIELD TRAINING COMPANY

Since 2016 ATC has been the leading independent airfield lighting training company. We deliver a range of recognised onsite and residential ICAO, FAA and EASA focused AGL Design, Maintenance, Safety & Compliance Inspection courses.

### BEST AGL TRAINING COMPANY 2020 – AVIATION & AEROSPACE AWARDS



### ABOUT THIS COURSE

AGL1 includes classroom and practical sessions designed to teach delegates the main electrical safety procedures for engineers and maintenance teams working airside with Airfield Ground Lighting. The course provides delegates with the correct safe isolation protocols when working on primary series circuits, secondary circuits, safe isolation of CCR's and basic fault finding.

The course explains both the application of the 'Health and Safety at Work Act' and the 'Electricity at Work Act' as applied to Aviation Ground Lighting as well as other safety related issues in relation to working 'airside'. The course structure is primarily based on the guidelines of ICAO Annex 14, CAA CAP 168 and relevant material is taken from FAA Advisory Circulars and other international approved AGL authorities were necessary.

### WHO SHOULD ATTEND?

- ✈ New Airport Engineers involved in installation and maintenance of AGL & CCR systems.
- ✈ Civil & Military contractors engaged in the installation and maintenance of AGL & CCR systems.

### CERTIFICATION

Having successfully passed the 1-hour exam on day 2, delegates will receive an Airfield Training Company 'ICAO Annex 14 & EASA Airfield Ground Lighting Airside Electrical Safety (AGL1)' Certification.



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## ATC REFERENCES

Hong Kong Airport  
Kuwait Airport  
Kenyan Airports Authority  
London City Airport  
Jacobs  
Mauritius Airports Authority  
RAF Akortiri  
Lagan Airports  
Manchester Airport Group  
Thales  
Jamaican Airports Authority  
Riga Airport  
Manila Airports Authority  
BAE Systems  
Evercon AGL Contractors  
RAF Lakenheath  
Dublin Airport  
Rome (FCO) Airport  
West Indies Islands Group  
Bristol Airport  
T. Clarke AGL Contractors  
safegate (Helsinki)  
Bournemouth Airport  
G&A Barnine Contractors  
HIAL (UK)  
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## Residential Training

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## AGL1 – 2 Day – Airside Electrical Safety

1. Introduction Airfield Ground Lighting Systems
2. Safe isolation of CCR's.
3. Safe isolation when working on primary series circuits.
4. Basic fault-finding techniques of series circuits.
5. Safe isolation of secondary circuits.
6. Series isolating transformers.
7. Primary & Secondary AGL Cable connectors and joints.
8. AGL maintenance tools.
9. Airfield power systems, UPS & standby generators.
10. Situational Awareness when working on Airfields.

## AGL1 – Certification

Having successfully passed classroom tests during the 2 days of the Training Programme each delegate will receive an Airfield Training Company 'Airfield Ground Lighting (AGL1) Course Certification'. The overall performance and contributions of each delegate will be monitored by the Training Manager over the 2 days and contribute to a final individual certification score.



### HOW TO BOOK

#### ONSITE & RESIDENTIAL TRAINING

Technical Support:  
[Peter.Glover@AirfieldTraining.com](mailto:Peter.Glover@AirfieldTraining.com)

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## AGL2 – Airfield Lighting & CCR Maintenance Training

### TRAINING SUMMARY

AGL & CCR Maintenance  
Maintenance Structures  
Maintenance Planning  
Maintenance Procedures  
Document Management  
Compliance Standards  
Tools and Equipment  
Photometric Testing  
Spare Parts Management  
Asset Management  
Airside Electrical Safety  
Situational Awareness

### AGL SUBJECTS

Approach Lighting Systems  
PAPI  
Runway Lighting  
Taxiway Lighting  
Stopbars / Runway  
Incursion Prevention  
Signage & Markings  
Use of Series Circuits  
Condition Monitoring  
AGL Jointing / Connectors  
AGL Installation  
Fault Finding  
LED Luminaire Maintenance

### CCR SUBJECTS

Thyristor Controlled CCR's  
Sine Wave IGBT CCR's  
New CCR Technology  
Circuit Selectors  
CCR Fault Finding  
CCR Maintenance  
CCR Sizing  
CCR Tapping's  
Safe Isolation Procedure  
CCR Installation

AGL2 is 4-day intermediate level training course designed for airfield engineers, contractors and operational personnel involved in the installation and maintenance, both reactive and corrective, of Airfield Ground Lighting Systems, CCR's & AGL Primary Series

### ABOUT AIRFIELD TRAINING COMPANY

Since 2016 ATC has been the leading independent airfield lighting training company. We deliver a range of recognised onsite and residential ICAO, FAA and EASA focused AGL Design, Maintenance, Safety & Compliance Inspection courses.

### BEST AGL TRAINING COMPANY 2020 – AVIATION & AEROSPACE AWARDS



### ABOUT THIS COURSE

This AGL2 Maintenance Training Course is designed to provide AGL Engineering and Management personnel with practical and classroom training to ensure airfield lighting systems are being safely maintained in compliance with the requirements of ICAO Annex 14 and EASA.

AGL2 teaches the delegates, best practice techniques for conducting compliant scheduled AGL system maintenance tasks for approach, threshold, runway, taxiway inset and elevated luminaires, PAPI Units, CCR's and primary series circuits.

Delegates learn to construct airfield maintenance schedules and how to correctly record the results of the activities, to help them develop and implement bespoke preventative maintenance programmes for individual airfields.

### WHO SHOULD ATTEND?

- ✈ Airport Engineers involved in installation and maintenance of AGL & CCR systems.
- ✈ Civil & Military contractors engaged in the installation and maintenance of AGL & CCR systems.
- ✈ Civil & Military airside operations personnel, duty managers and ATM's.

### CERTIFICATION

Having successfully passed the 2-hour exam on day 4, delegates will receive an Airfield Training Company 'ICAO Annex 14 & EASA Airfield Ground Lighting Maintenance & Compliance Course (AGL2)' Certification.





## ATC REFERENCES

Hong Kong Airport  
Kuwait Airport  
Kenyan Airports Authority  
London City Airport  
Jacobs  
Mauritius Airports Authority  
RAF Akortiri  
Lagan Airports  
Manchester Airport Group  
Thales  
Jamaican Airports Authority  
Riga Airport  
Manila Airports Authority  
BAE Systems  
Evercon AGL Contractors  
RAF Lakenheath  
Dublin Airport  
Rome (FCO) Airport  
West Indies Islands Group  
Bristol Airport  
T. Clarke AGL Contractors  
safegate (Helsinki)  
Bournemouth Airport  
G&A Barnine Contractors  
HIAL (UK)  
Interserve  
Toma Construction

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## AGL2 – ICAO Annex 14 / EASA - Maintenance Training Course Activities

1. Teach the required best practice ICAO Annex 14 and EASA AGL compliance techniques for the safe maintenance and data recording of CAT I, II, III AGL & CCR systems.
2. Train delegates how to establish correct and efficient AGL maintenance programmes.
3. Series circuit design, fault finding techniques and condition monitoring of series circuits
4. Correct safe isolation procedures when working on AGL primary circuits & ccr's.
5. To understand the principles of operation and how to carry out practical maintenance tasks on inset and elevated luminaires for:
  - Approach Lighting, Threshold Lighting, Runway Lighting, Taxiway Lighting.
  - To set up, calibrate and maintain PAPI units.
  - AGL Signage & Markings design and maintenance
  - Photometric Testing & Understanding the Results >> Fixing to compliance.
6. CCR types, operation, and main components. How to set up, carry out maintenance tasks, and fault finding on IGBT / Thyristor CCR's & Circuit Selectors.
7. How to complete the best Primary & Secondary AGL Cable connectors and joints.
8. The principals of AGLCMS, A-SMGCS, Individual Lamp Control & Monitoring Systems.
9. Airside Electrical Safety and situational awareness.
10. Situational Awareness when working on Airfields.



### HOW TO BOOK

#### ONSITE & RESIDENTIAL TRAINING

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## AGL3 – ICAO Airfield Lighting Design Training

### TRAINING SUMMARY

Principals of AGL  
Luminaire Patterns  
Approach Lighting Layout  
PAPI Design & Calculations  
Runway Lighting Design  
Taxiway Lighting Design  
Airfield Signage  
Series Circuit Design  
CCR Sizing / Circuit Design  
Circuit Selectors  
Obstruction Lights  
Airfield Lighting Cables  
Isolating Transformers  
Circuit Condition  
Monitoring  
Asset Management  
Power Supply Systems  
New Technologies

### AGL SUBJECTS

Approach Lighting Systems  
PAPI  
Runway Lighting  
Taxiway Lighting  
Stopbars / Runway  
Incursion Prevention  
Signage & Markings  
Series Circuits  
Condition Monitoring  
AGL Installation  
LED Lighting

### CCR SUBJECTS

Thyristor Controlled CCR's  
Sine Wave IGBT CCR's  
Circuit Selectors  
Series Circuit Design  
New Technology CCR's for  
LED lighting

AGL3 is a 5-day residential training course is targeted towards anyone in the AGL sector that is involved in the design, planning, management, and implementation of CATI, CATII, CATIII AGL Systems, CCR's, AGL Primary Series Circuits, AGL Secondary Circuits.

### ABOUT AIRFIELD TRAINING COMPANY

Since 2016 ATC has been the leading independent airfield lighting training company. We deliver a range of recognised onsite and residential ICAO, FAA and EASA focused AGL Design, Maintenance, Safety & Compliance Inspection courses.

### BEST AGL TRAINING COMPANY 2020 – AVIATION & AEROSPACE AWARDS



### ABOUT THIS COURSE

This AGL3, ICAO Annex 14 Airfield Lighting Design Training Course teaches the skill base needed to correctly design CATI, CATII, CATIII compliant AGL Systems.

AGL3 includes modules in how to interpret and problem solve solutions related to ICAO and regional CAA policy and compliance issues and obstacles.

Note: General airfield ground lighting knowledge is required to enable full benefit to be gained from this course. If you do not have any AGL experience we would suggest that that you attend our AGL 1 – Introduction to AGL, prior to attending this challenging course.

### WHO SHOULD ATTEND?

- ✈ Airport Engineering Consultants
- ✈ Airport Engineering Planners
- ✈ Airfield Pavement Designers
- ✈ AGL Maintenance Engineers
- ✈ Airfield Tier 1 & Tier 2 Contractors

### CERTIFICATION

Having successfully completed the 5-day training course 4, delegates will receive an Airfield Training Company 'ICAO Annex 14 AGL Design (AGL3)' Certification.



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## ATC REFERENCES

Hong Kong Airport  
Kuwait Airport  
Kenyan Airports Authority  
London City Airport  
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Mauritius Airports Authority  
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Manchester Airport Group  
Thales  
Jamaican Airports Authority  
Riga Airport  
Manila Airports Authority  
BAE Systems  
Evercon AGL Contractors  
RAF Lakenheath  
Dublin Airport  
Rome (FCO) Airport  
West Indies Islands Group  
Bristol Airport  
T. Clarke AGL Contractors  
safagate (Helsinki)  
Bournemouth Airport  
G&A Barnine Contractors  
HIAL (UK)  
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## AGL3 – ICAO Annex 14 AGL Design Course Activities

Delegates will be taught how to design AGL systems from the substation, through interleaved series circuit design, transformers, to the light unit. All main AGL related services are included within this course. Our trainers will teach the best practices to help delegates write compliant AGL system specifications and BOQ's and possess a solid understanding of airfield lighting systems design techniques, protocols, and regulations to build resilient and reliable systems. Delegates will design the AGL Layout of a fictional airport with our trainers supervision.

### AGL3 – Modules Include:

1. Series Circuit Design – Interleaving Circuits, Cable Types, Cable Installation (Pit & Duct – Direct Buried) and Isolating Transformers.
2. Designing CATI, CATII, CATIII Approach Lighting Systems, Strobe Sequential Flashing Approach, Approach Masts Heights, PAPI, Runway Lighting Systems, Threshold & Displaced Threshold, Runway Edge, Runway End, TDZ, Runway Centreline, Rapid Exit Taxiways, Taxiway Services, Taxiway Edge, Taxiway Centreline, Stopbars, Runway Guard Lights, Airfield Signage & Marking on Runways & Taxiways.
3. CCR Sizing & Circuit Selector Calculations.
4. Practical exercises in designing Approach layout, Runway Lighting layout, Taxiway Lighting, PAPI positioning, CCR Sizing and Taxiway Guidance Signs.
5. Considerations for Airfield Power systems using UPS & Standby Generators.
6. How to build resilience into an AGL system design.
7. New technologies that sector is trending towards.



HOW TO BOOK

CONTACT DETAILS

### ONSITE & RESIDENTIAL TRAINING

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## TRAINING SUMMARY

Define the standards to meet compliance of the airfield to ICAO and EASA requirements.

Introduction to Air Traffic Management including communication, navigation, and surveillance.

Ground Movement infrastructure. In normal and Low Visibility operations.

SMGCS and A-SMGCS Control scenarios.

Compliance Monitoring through ILCMS technology and periodic inspection.

Airport Safety Case process and the need for Risk and Safety management systems.

Airside working Risks and Safe working practices.

Development of AGL Maintenance Plan and its role in the Aerodrome Manual.

# AGL4 – Airfield Operations and Safety

AGL4 is a 4-day advanced level training course from ATC, focusing on the ICAO Next Generation of Aviation Professionals (NGAP) initiative to ensure that sufficient competent professionals are available to maintain and manage airfield operations in the future.

## ABOUT AIRFIELD TRAINING COMPANY

Since 2016 ATC has been the leading independent airfield lighting training company. We deliver a range of recognised onsite and residential ICAO, FAA and EASA focused AGL Design, Maintenance, Safety & Compliance Inspection courses.

## BEST AGL TRAINING COMPANY 2020 – AVIATION & AEROSPACE AWARDS



## ABOUT THIS COURSE

This AGL4 Airfield Operations and Safety Course is designed to acquaint AGL Engineering and Management personnel with the airfield systems and operations that integrate with AGL. These include topics such as Nav aids, Ground Movement Operations, ILCMS and new technologies and the Safety Management Systems that allow operations to be conducted safely and competently.

AGL4 provides the delegates with an introduction to Communication, Navigation and Surveillance (CNS) systems in use on today's modern airfield, Ground Movement operations with use of ILCMS forming an integral component of A-SMGCS systems as well as airport safety case requirements and the type of documentation required for safety and risk management.

## WHO SHOULD ATTEND?

- ✈ Airport Engineers involved in installation, maintenance, planning and safety case development of AGL systems.
- ✈ Civil & Military contractors engaged in the installation and maintenance of AGL & CCR systems.
- ✈ Civil & Military airside operations

## CERTIFICATION

Having successfully passed the 2-hour exam on day 4, delegates will receive an Airfield Training Company 'ICAO Annex 14 & EASA NGAP Airfield Operations and Safety Course (AGL4)' Certification.





## ATC REFERENCES

Hong Kong Airport  
Kuwait Airport  
Kenyan Airports Authority  
London City Airport  
Jacobs  
Mauritius Airports Authority  
RAF Akrotiri  
Lagan Airports  
Manchester Airport Group  
Thales  
Jamaican Airports Authority  
Riga Airport  
Manila Airports Authority  
BAE Systems  
Evercon AGL Contractors  
RAF Lakenheath  
Dublin Airport  
Rome (FCO) Airport  
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## AGL4 – ICAO Annex 14 / EASA – Airfield Operations & Safety Activities

1. Teach the required best practice ICAO Annex 14 and EASA AGL compliance techniques for the safe maintenance and data recording of CAT I, II, III AGL & CCR systems.
2. Introduction to Air Traffic Management including communication, navigation, and surveillance systems.
3. Ground Movement Infrastructure, taxiway lighting, Stopbars and Taxiway Guidance Signs.
4. The principals of AGLCMS, A-SMGCS, Individual Lamp Control & Monitoring Systems.
5. Compliance Monitoring using ILCMS Systems and Photometric Testing.
6. Correct safe isolation procedures when working on AGL primary circuits & ccr's.
7. Train delegates how to establish correct and efficient AGL inspection, maintenance, and documenting programs.
8. Airside Electrical Safety and situational awareness.
9. Situational Awareness when working on Airfields.
10. Safety Case process and the preparation of safety case documentation.



### HOW TO BOOK

#### ONSITE & RESIDENTIAL TRAINING

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